Exhibit 6

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

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IN RE: NATIONAL PRESCRIPTION OPIATE LITIGATION	MDL No. 2804
This document relates to:	Case No. 17-MD-2804
The County of Summit, Ohio, et al v. Purdue Pharma L.P., et al Case No. 1:18-OP-45090	Hon. Dan A. Polster
The County of Cuyahoga v. Purdue Pharma L.P., et al Case No. 17-OP-45004	

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HIGHLY CONFIDENTIAL - SUBJECT TO
FURTHER CONFIDENTIALITY REVIEW

VIDEOTAPED DEPOSITION OF DAVID CUTLER, Ph.D.

Friday, April 26th, 2019
9:00 a.m.

Held At:
Robins Kaplan LLP
800 Boylston Street
Boston, Massachusetts

REPORTED BY:
Maureen O'Connor Pollard, RMR, CLR, CSR

APPEARANCES:

FOR THE PLAINTIFFS and THE DEPONENT:

DAVID J. KO, ESQ.
DEREK W. LOESER, ESQ.
KELLER ROHRBACK, LLP
1201 Third Avenue
Seattle, Washington 98101
206-623-1900
dko@kellerrohrback.com
-and-
THOMAS M. SOBOL, ESQ.
HAGENS BERMAN SOBOL SHAPIRO LLP
55 Cambridge Parkway
Cambridge, Massachusetts 02142
617-482-3700
tom@hbsslaw.com

-and-

HOLLY DOLEJSI, ESQ.
ROBINS KAPLAN LLP
800 LaSalle Avenue
Minneapolis, Minnesota 55402
612-349-8500
hdolejsi@robinskaplan.com

FOR CAYAHOGA COUNTY:
SALVATORE C. BADALA, ESQ.
NAPOLI SHKOLNIK PLLC
400 Broadhollow Road
Melville, New York 11747
631-224-1133
sbadala@napolilaw.com

APPEARANCES (Continued):

FOR PURDUE PHARMA:

WILL SACHSE, ESQ.
DECHERT LLP
2929 Arch Street
Philadelphia, Pennsylvania 19104
215-994-4000
will.sachse@dechert.com

FOR McKESSON CORPORATION:
DAVID HALLER, ESQ.
FATMATA S. KABIA, ESQ.
COVINGTON & BURLING LLP
620 Eighth Avenue
New York, New York 10118
212-841-1000
dhaller@cov.com

FOR AMERISOURCEBERGEN DRUG CORPORATION:
BRIAN T. HIMMEL, ESQ.
REED SMITH LLP
225 Fifth Avenue
Pittsburgh, Pennsylvania 15222
412-288-4058
bhimmel@reedsmith.com

FOR WALGREENS:

MATTHEW BREWER, ESQ.
BARTLIT BECK LLP
54 West Hubbard Street
Chicago, Illinois 60654
312-494-4445
matthew.brewer@bartlitbeck.com

APPEARANCES (Continued):

FOR H.D. SMITH:

ALICE SPRINGER, ESQ. (Remotely)
BARNES & THORNBURG LLP
100 North Michigan
South Bend, Indiana 46601-1632
574-237-1120
alice.springer@btlaw.com

FOR WALMART:
CLAIRE CASTLES, ESQ.
JONES DAY
555 South Flower Street
Los Angeles, California 90071-2300
213-489-3939
ccastles@jonesday.com

-and-

STEVEN N. GEISE, ESQ.
JONES DAY
4655 Executive Drive, Suite 1500
San Diego, California 92121-3134
858-314-1170
sngeise@jonesday.com

FOR CVS INDIANA, LLC and CVS RX SERVICES, INC.:
DANIEL P. MOYLAN, ESQ.
ZUCKERMAN SPAEDER, LLP
100 East Pratt Street
Baltimore, Maryland 21202-1031
410-949-1159
dmoylan@zuckerman.com

APPEARANCES (Continued):

FOR ANDA, INC.:

KATY E. KOSKI, ESQ.
FOLEY & LARDNER LLP
111 Huntington Avenue
Boston, Massachusetts 02199-7610
617-342-4000
kkoski@foley.com

FOR ALLERGEN FINANCE:
TIMOTHY W. KNAPP, ESQ.
JOHN BAILEY, ESQ.
KIRKLAND & ELLIS LLP
300 North LaSalle
Chicago, Illinois 60654
312-862-7170
timothy.knapp@kirkland.com
john.bailey@kirkland.com

FOR JANSSEN and JOHNSON & JOHNSON DEFENDANTS:

MATTHEW KAISER, ESQ.
O'MELVENY & MYERS LLP
400 South Hope Street
Los Angeles, California 90071-2899
213-430-8117
mkaiser@omm.com

FOR HBC SERVICE, INC.:
RICHARD I. HALPERN, ESQ.
MARCUS & SHAPIRA LLP
One Oxford Centre, 35th Floor
301 Grant Street
Pittsburgh, Pennsylvania 15219-6401
412-338-4690
halpern@marcus-shapira.com

Page 174

BY MR. KNAPP:
Q. With respect to the final -- strike that.
For purposes of this question I want to focus on the final regression model that Dr. Rosenthal -- strike that.
I want to focus on the final regression models that Dr. Rosenthal built for purposes of her report. Did you identify any issues associated with those models?
MR. SOBOL: I instruct him not to answer, because you've got embedded in the question the communications.
If you want to ask him just if he has an opinion about it, I'm not going to instruct him not to answer about that, but it sounds like right now, to me, what you're asking about is what was discussed at meetings with the lawyers, which is not appropriate.
You can ask questions anyway. I'm actually trying to be helpful here.
BY MR. KNAPP:
Q. So, Professor Cutler, I'm asking about the final regression model that Professor

Page 175

Rosenthal put together. Do you believe that the regressions that she ran were appropriate?
A. Yes, I do believe that the regressions Professor Rosenthal ran are appropriate.
Q. And you've adopted them as your own for purposes of incorporating the outputs into your model?
A. I have incorporated the outputs of Professor Rosenthal as an input into my model, with the understanding that I believe that they're appropriate.
Q. Did you run any sensitivity tests to see how her results would be impacted?
A. I did not run any sensitivity analysis on her models.
Q. What are the standard diagnostic tests that you would run when running a time series regression?
MR. SOBOL: Objection. Scope.
You can answer.
A. In any regression that one runs there are several diagnostics. One thing that one would do would be to look at the R-squared statistic or the adjusted R-squared statistic as

Page 176

a measure. That is a measure of the goodness of fit of the model.
In addition, one would look at the predictions of the model relative to the actual data, so does the model seem to be fitting the data well, or are there aspects of the data that the model cannot fit well, and if so, that suggests that the model is not accurate and needs to be revised in some way.
BY MR. KNAPP:
Q. Based upon what you know from -- well, strike that.
Is a negative depreciation rate inconsistent with the literature on regressions?
MR. SOBOL: Objection. Scope.
You can answer.
A. Actually in a model of addiction, a negative depreciation rate would not be inappropriate at all. In fact, one way to interpret addiction is that the effects build up over time, so being -- having taken a drug first, one then needs an increasing amount of it over time, and that's going to show up as a negative depreciation rate; that is, the impact

Page 177

of actions build over time rather than depreciating over time.
BY MR. KNAPP:
Q. Is there any specific literature that you're relying on for the statement that you just made?
A. There is theoretical literature in the economics of rational addiction that addresses it. I don't know offhand whether there are any empirical papers that would -- that estimate a negative depreciation rate, and I don't know in the sense that I just have not reviewed the literature. So it's not that I've reviewed the literature and I -- that is not a disguised way of saying no. That's just me saying I have not reviewed that literature well enough to see if anyone has estimated negative depreciation rate.
Q. Is there a particular paper that you're referring to in the economics of rational addiction that you think addresses this topic?
A. There are. I'm trying to remember if any of the papers have phrased it as in terms of a negative depreciation rate or whether instead they've just phrased it as -- mostly what they

Page 178

phrased it as is complementary consumption over time, that is complementarity of consumption, so consuming more of the good today increases my margin utility of the good tomorrow.

In that framework, that is -- it's typically done through the utility function preferences that way rather than through the discount rate, in part because one wants to do welfare analysis, and so you really are thinking about a positive discount rate from the individual utility point of view. So I think most of the studies have not put it in the discount rate because they're not doing empirical analysis for which they're then saying what would be the impact on the estimated depreciation rate. They're doing theoretical analysis that says how would addiction show up in such a model.

Q. Sitting here today, there's not particular papers that you can identify?

MR. SOBOL: Objection. Asked and answered.

A. I don't have a specific paper that has translated it into a depreciation rate for a

Page 179

regression like what Professor Rosenthal has run.

BY MR. KNAPP:

Q. Now, did -- strike that.

Professor Rosenthal estimated the impact of promotion in three different time periods, right?

A. That's correct, yes.

Q. And did you agree with that approach?

A. Yes, I did agree with Professor Rosenthal's approach.

Q. And is the reason that she looked at three different time periods because she assumed that there were three different structural breaks in the market?

A. She assumed that there were two different structural breaks in the market which led to three different time periods.

Q. Thank you. Good clarification.

Your model assumes that there's only a single structural break in the market, right?

A. That's correct, my model has only one structural break.

Q. If Dr. Rosenthal concluded that there

Page 180

were two structural breaks, why does your model only account for one structural break?

A. The reason for the difference is that we're modeling two different things. So Dr. Rosenthal is modeling prescription drug shipments as the outcome variable, and the misconduct on the part of defendants as the explanatory variable. In that case one needs to think about how many breaks are there in the shipment variable, and she identifies those two break points, as we were talking about.

In my case the issue is not so much was there a change in the slope of shipments over time, but rather what impact does -- do the shipments of drugs have on the mortality outcome, and that doesn't necessarily have a break at any particular point in time when, for example, shipments of a particular set of medications ramp up. The model says that that has the same impact. It's only when the mortality framework changes, not so much the shipment framework, but it's only when the mortality framework changes that there would be a break in the mortality relationship.

Page 181

Q. You understand that Dr. Rosenthal's measurement of the percent of MME's that were attributable to challenge promotion is a national average effect, right?

A. Yes, I do understand that.

Q. In your -- what your regression analyses do is you look at the geographic variation in shipments per capita to evaluate the relationship between shipments and mortality, right?

A. That's correct. I'm using a geographic level analysis.

Q. So if the marketing effects are national, to what would you attribute the geographic variation that you're analyzing?

MR. SOBOL: Objection.

A. We were talking earlier about the fact that the regression averages over, for example, shipments that may be more or less causing of harm. In the same way here, the regression is taking all shipments to the area and it's not making a -- it's not saying that -- I have no way to say, were the shipments in one county more or less caused by misconduct than shipments

Page 182

in another county.
To the extent that they were, then there would be measurement error in the shipments variable; that is, some would be differentially due to misconduct and others might not be differentially due to misconduct. If those two are differentially associated with harms, I would then estimate an impact of shipments on mortality that was too low; that is, would not show an appropriate impact of inappropriate shipment of harms because it would be bringing in different outcomes in different counties that were -- that -- for which the effects are bigger and smaller.
BY MR. KNAPP:
Q. I want to hand you -- now, have you studied the different factors that motivate doctors to write prescriptions, or the variations in treatment among particular doctors?
MR. SOBOL: Objection to the form.
You can answer.
A. In this analysis I have not done that. As part of my academic work I both do some

Page 183

analyses, and I teach about factors that motivate behavior of physicians.
So the answer is yes, in general, but no in this specific report.
BY MR. KNAPP:
Q. And you understand that in connection with the studying that you've done that doctors are strongly motivated to write prescriptions based upon their own belief about the appropriateness of treatment, right?
MR. SOBOL: Objection.
A. That's correct, that's one of the factors that enters into physicians' prescriptions is their own belief about effectiveness.
BY MR. KNAPP:
Q. And you've written about that in your paper "Physician Beliefs and Patient Preferences, A New Look At Regional Variation in Healthcare Spending," right?
A. I'm glad you've read it. I like that paper. Yes, I have.
Q. Okay. Would you agree that physicians are also motivated by prescribing standards of

Page 184

care in terms of determining what types of prescriptions they write?
A. In general there are a lot of influences on physicians, one of which will be prescribing standards of care and one of which, as you said, was the physicians' perception about the effectiveness of a class of medications or a single medication within a class.
Q. And patient preference also impacts a doctor's motivations to write prescriptions, right?
MR. SOBOL: Objection.
A. The economic literature -- so I'm not testifying about it here. If you're asking about the economic literature, the economic literature does suggest that patient preferences are important, although the economic literature suggests that physician factors are far more important, supply side factors are far more important than are patient preferences.
BY MR. KNAPP:
Q. Drug reimbursement policy also impacts the types and volume of prescriptions that

Page 185

doctors write?
MR. SOBOL: Objection. Scope.
You can answer.
A. Again, within -- again, with the proviso that I've not offered an opinion about that in this report, I'm going to answer this question as if you're asking me in general about the health economics literature. And in general within the health economics literature, it shows very much that the -- that insured -- that factors such as the restrictions in terms of prior authorization or costs do influence what physicians prescribe.
BY MR. KNAPP:
Q. And similarly, insurers' preferred drug list also influences the types and volume of prescriptions that doctors write?
MR. SOBOL: Objection. Scope.
You can answer.
A. That's correct. In terms of the general health economics literature, the formularies, the prior authorization, they all influence what physicians prescribe.
BY MR. KNAPP:

Page 186

Q. And you would agree that prescribing decisions by doctors are complex decisions that are necessarily reliant on the individual examination of a particular patient, right?
MR. SOBOL: Objection. Scope.
You can answer.
A. I don't want to use complex because I don't know relative to simple, so I will just say that there are many factors that go into -- that often -- that often go into a physician's decision about prescriptions.
BY MR. KNAPP:
Q. Other than the factors that we've already talked about, any other factors that you've identified through the economic literature that motivate doctors to write prescriptions?
MR. SOBOL: Objection. Scope.
You can answer.
A. Again, certainly the literature has shown very clearly that promotion activity on the part of manufacturers influences what physicians do, what physicians prescribe, that recommendations from senior colleagues or

Page 187

colleagues who are expert in a particular area can influence what physicians do. So I think there are -- there are a number of things associated with beliefs.
I group them into categories, maybe beliefs of physicians, financial incentives, and other constraints. And I think those three areas, each of them influence what physicians do.
BY MR. KNAPP:
Q. Have you determined that Rosenthal's, both of her direct and indirect models are economically sound and reliable?
A. I believe that her models are economically sound and reliable.
Q. Do you have a view on which model is more reliable?
A. I don't have a view as to which model is more reliable. I think in many ways the fact that both Professor Rosenthal and I have different models that reach relatively similar conclusions adds strength to each of the models.
Q. Now, if Dr. Rosenthal's opinions on the percentage of shipments that were influenced

Page 188

by the defendants' misconduct changed, then your conclusions will change proportionately, right?
MR. SOBOL: Objection.
A. That -- not necessarily proportionately, in a strict proportional sense.
But yes, if Dr. Rosenthal's opinions change, that would influence the results that I present.
BY MR. KNAPP:
Q. So if the percentage that she's attributing to defendants' misconduct -- strike that.
If the percentage of shipments that she's attributing to defendants' misconduct drops from 10 to 5, the input in your model will have to drop from 10 to 5?
A. That is correct. If she were to drop her input, then that would directly translate into a reduction in the input I use in my model.
Q. And if a jury concludes that her calculations are wrong, then that would necessarily mean that your conclusions are wrong, too, right?
MR. SOBOL: Objection.

Page 189

A. I don't think about it as a conclusion being wrong. What I have is a model that will translate in input, which is shipments due to misconduct into an output which is harm. That model will still be correct.
What one can then do is apply that model to a different estimate about what share of harms are due to misconduct on the part of defendants as a whole or any single defendant. It will yield an answer that's appropriate for that. That answer will not be wrong, no answer is wrong, it's sort of giving you for the appropriate input what is the appropriate output.
BY MR. KNAPP:
Q. Well, to be clear, if Dr. Rosenthal's opinion is excluded or rejected, you don't offer the court or the jury any way to link any harms to defendants' conduct, correct?
MR. SOBOL: Objection.
A. In order to calculate the harms, I would need an estimate from the court, from Dr. Rosenthal, from any other expert as to what share of harms are a result of defendants'